



RESEARCH ARTICLE

A CRITIC ON THE PHYSIOLOGICAL AND PATHOLOGICAL ASPECTS OF DRISHTI AND ITS CLINICAL APPLICATION

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ARTICLE INFO

Article History:

Received 11th February, 2017
Received in revised form
15th March, 2017
Accepted 07th April, 2017
Published online 31st May, 2017

Key words:

Drishti, Patala, Dosha,
Physiology, Pathology.

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Citation: Ashwini, B.N., Sivabalaji, K. and Dr. Sundar Raman, 2017. "A critic on the physiological and pathological aspects of Drishti and its clinical application", *International Journal of Current Research*, 9, (05), 50929-50931.

ABSTRACT

Ayurveda is a science of life emphasizing the concepts of maintenance of health in healthy and treatment of the diseases. It has 8 branches dealing with various specialties, among which Shalaky Tantra deals with the study of functioning and diseases related to the sense organs. Amongst the senses, eye is given the most importance as once the vision is lost the, one will not be able to differentiate day –night and enjoy the beauty of nature. Around 76 diseases are being explained dealing with eye diseases. The classification of these diseases is based on the site of the disease. The diseases with disturbance in vision in any form falls in the category of drishtigatarogas where the patalas are afflicted by the vitiated doshas. The concept visual perception in physiological and pathological conditions will be discussed further.

INTRODUCTION

Drishti gatarog as are a set of diseases featured by impairment in the vision in any form, either difficulty in distant vision, near vision, distorted vision, color vision or any visual field defects seen in various conditions (Vagbhata, Astangahridaya, 2005). Hence, to establish an ayurveda treatment plan, it's important to understand the concepts of drishti and drishtigatarogas. Drishti is an entity which is responsible for perception of vision. Acharya Sushruta has given a detailed literature about it, which is as follows (Susrutha, susrutha samitha, 1997). The size of the drishti is masuradala (size of red dal). It is formed by the combination of all mahabhutas with the predominance of teja (agni) mahabhuta. Hence, eyes are the seat for agni mahabhuta in the form of alochaka pitta (Susrutha, Susrutha samitha, 1997). Eye perceives roopa because of same source of origin (tulya yoni) i.e. agni mahabhata. This pitta does not have any physiological variation. It resembles the spark of fire which describes about the foveal reflex (Vagbhata, Astangahridaya, 2005). It is covered by the patalas (functional entities) all around, which will not hinder the entering of tejabaramanu (light rays) inside. This is because, the patalas are provided with sookshmakupas (minute openings) which transmits the light rays into the eyes (Susrutha, susruthasamitha, 1995).

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This is the optical transparency of the eye structures i.e. the media of the eye starting from cornea, aqueous, lens and vitreous. These structures need to be transparent for the passage of light rays and perception of vision. Any defect in this media will lead to defective vision. Patalas are 4 in no, tejoalashrita, mamsashrita, medashrita and astyashrita patala (Susrutha, Susruthasamitha, 1997). These structures cannot be located as one structure but those tissues which shelters the respective gunas of the dhatus can be considered. For instance, tejoalashritapatala- structures which have the properties of rakta and rasa (vascular coat). Mamsashrita (structures with mamsaguna - muscular part), medashrita patala (structure with medaguna- vitreous), astyashrita patala (structures with astiguna- sclera and cornea).

Concept of physiological aspects of drishti

Patalas are the seat for the diseases where the prime feature is impairment in vision. It may be blurred vision for distance or near, diplopia, metamorphopsia and visual field defects. Acharya Bhela has described two types of alochaka pitta (Bhela, 2008). They are Chakshu vaisheshika and buddhi vaisheshika. The former is responsible for proper formation of image on the retina and transmission of impulses (conditions wherein the media of the eye and retina is involved) (Bhela Samhita, 2008), while the latter which the analysis of the image (visual centre is involved). The normal functioning of alochaka pitta is ensured by vata and kapha (Vagbhata,

AstangaSangraha, 2006). The conduction of impulses by vata and structural integrity by kapha (Vagbhata, Astangahridaya, 2005; Vagbhata, Astangahridaya, 2005). Drishti is situated in the inner most patala (abhyantarapatala) and has influence on the other (Vagbhata, AstangaSangraha, 2006). The patalas which are close to this, will have more influence of drishti (by the virtue of which the doshas in invading the patalas nearer to drishti will be nullified) and vice versa (Vagbhata, 2006). This is why pratama and dwiteeya patalagata dosha is curable, triteeya patala becomes yapyia and chaturthapatala becomes asadhya (Vagbhata, 2005).

Concept of pathological aspects of drishti

The diagnosis of a disease with impairment in the vision is based only on the symptoms. When prathama and dwiteeya patala is invaded by the doshas, it is called as timira, triteeya patala is kacha and chaturtha patala is linganasha (Vagbhata, Astangahridaya, 2005). These timira, kacha, linganasha are the progressive stages of a disease which starts with the blurring of vision, ending with complete loss of vision.

Dosha involved is vata (Vagbhata, Astangahridaya, 2005). Vitreous degeneration, floaters are seen. This feature is seen in dwiteeya patalagata lakshana. Dosha is vata (responsible for degenerartion). Diplopia wherein there will be double vision is seen as triteeya patalagata lakshana. Metamorphosia which is seen in many conditions where there is distortion of vision (Parson, Parson's diseases of the eye, Ramanjitsihota ,radhika tendon, 22nd edition 2015). This feature is seen in triteeya patalagata dosha lakshana (karna nasa kshi yuktani viparitani ca veekshyate). Dosha can be either vata or pitta (Vagbhata, 2005). Visual field defects characterized by different pattern of vision loss. The pattern of visual field defect corresponds to the site of lesion in the visual pathway. For instance, if nasal fibres of right eye are effected it leads right temporal visual field defect (Parson, 2015). In triteeya patalagata dosha, depending on the lodgement of dosha the corresponding side of vision will not be seen. For example, if the doshas are situated in the side of drishti then lateral part of field of vision is lost. This is seen as triteeya patalagata lakshana and also in sannipataja timira. Hence, sannipataja timira line of management should be followed (Vagbhata, Astangahridaya, 2005).

The features of patalagata doshas are listed in the table below (Susrutha, Susruthasamitha, 1997)

S.No.	Patala	Lakshana	Interpretation of Symptoms and signs
1	Pratama	Disturbance in vision	Blurred vision
2	Dwiteeya	Patient sees objects like insects, hairs and webs, unable to perceive certain parts in a face, sees certain luminous objects like stars, objects which are near appears to be far and vice versa, unable to thread a needle.	Floaters, metamorphopsia, photopsia, loss of depth perception and presbyopia
3	Triteeya	Depending on the lodgement of doshas, corresponding loss of visual field, example: if the dosha is located in the sides of patala, corresponding part of field is defective, objects appears to be bigger than there actual size and there will be distortion of the image seen. There will be raga prapthi – different colors will be imparted to the patalas corresponding to the dosha involved. Vatadosha – reddish black, pitta – yellow or blue, kapha – white, rakta – red, sannipataja as multiple colors and parimlayi as yellow, red or blue.	Visual pathway defects, retinal tear or detachment, metamorphopsia. Raga prapthi to the patalas as any change in the general back ground. Example: vitreous hemorrhage – as pittaja, Retinitis pigmentosa as vataja.
4	Chaturtha	Complete loss of vision but still the patient sees bright objects like sun, moon and t Lightening.	Conditions where in the patient is said to be legally blind, No PL, condition swere there is retinal traction leading to flashes.

Table showing Sign and symptoms of different types of Timira, kacha and linganasha depending on the involvement of dosha and patalas (Vagbhata, Astangahridaya 2005)

S.No.	Timira, kacha and linganasha	Signs and symptoms	Interpretation
1	Vataja	Objects which are static appears to be moving, distorted images, reddish tinge to the vision, patala appears as reddish black, involuntary movements of the eye ball, complete loss of vision	Metamorphopsia, Nystagmus, complete loss of vision.
2	Pittaja	Sees everything as bright, bluish tinge to the vision, Patala appears to be yellow or red, sees sun, moon and stars	Photopsia, glare, colored halos, conditions where there is hemorrhage/ neo vascularization, traction on retina leading to flashes, complete loss of vision.
3	Kaphaja	Sees objects as if covered with cloth, obstruction by kapha which gets settled in front of patala hindering entry of tejumparamanu(light rays), the region of patala appear white in color, complete loss of vision.	Blurred vision/haziness, Lenticular opacity obstructing the light rays to reach retina, complete loss of vision
4	Raktaja	Reddish colored vision, sees certain bright objects, patala appears red in color, complete loss of vision	Photopsia, flashes, vitreous or retinal hemorrhages, neovascularization on retina.
5	Sannipataja	Combination of above symptoms depending on the involvement of doshas	Combinations of above symptoms
6	Parimlayi	Combination of symptoms of pitta and rakta, the severity of symptoms depnds on the aahara rasa(food), when the aahara rasa is not properly formed the signs and symptoms will be more severe	Combination of symptoms pitta and rakta, In case of diabetic retinopathy, when the glucose level in the blood is more there will be increase in blurring of vision

Clinical application of concept of drishti

Myopia: charecterised by blurring of vision for distant objects (Parson, 2015). This feature is seen in pratama patalagata dosha lakshana. Dosha is vata. Hence, vatajatimira line of management should be followed. Presbyopia is diffculty in near vision seen as a symptom in dwiteeya patalagata dosha.

Complete loss of vision is seen in linganasha stage. Here the doshas invade all the 4 patalas. The person sees only bright objects like sun and moon. This is nothing but the flashes which is seen when there is vitreo retinal traction in conditions like advanced diabetic eye disease.

Conclusion

The concept of drishti and patalas can be effectively applied in management of a disease with the impairment of vision. Thorough history with the analysis of the symptoms, signs and application of the precise ayurveda treatment protocol is the key for clinical outcome.

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